

REMARKS

Claims 1-13 are rejected. Claim 1 is an independent claim. Claims 1-13 are pending in the application.

Reconsideration of all grounds of rejection in the Office Action, and allowance of all of the pending claims are respectfully requested in light of the following remarks.

Specification has been amended to remove typos which erroneously cited to the incorrect label identification numbers in the drawings. Correction of the specification alleviates the need to submit corrected drawing as suggested by the Office Action. No new matters have been added.

Claim 4 has been objected. In response, claim 4 has been amended to provide clarity and consistency to the claims.

Claims 1-3, 8, 10, 11 and 12 stand rejected under 35 U.S.C. 103(a) as allegedly unpatentable over Linden et al. (US 4,966,615), hereafter "Linden," in view of Sapsford (US 5,568,728) hereafter "Sapsford."

Applicants respectfully traverses the rejection of claim 1 over Linden in view of Sapsford, as instant claim 1, now amended, recites, a cooling apparatus containing a "left and right cooling part selectively closing at a predetermined speed."

Support for the amendment to claim 1 can be found at page 10, lines 11 -23:

At the time of drawing an optical fiber from the optical-fiber preform, which is positioned in the melting furnace and has undergone preheating and heating processes, if the drawing velocity of the optical fiber F1 (the linear velocity is about 200 ~ 500 meter per minute: mpm) increases to apply tension to the optical fiber F1, the left and right cooling body parts 112 and 114 are joined together to form a single body -- i.e., the cooling body 110. At the same time, the upper and lower caps 120 and 130 are integrally engaged to the cooling body 110, and then the cooling gas 146 is supplied to the cooling body 110. Following this process,

if the linear velocity of the basically tensioned and drawn optical fiber reaches to about 700 ~ 1000 mpm, the turbulence generators 140 are operated.

In contrast, Linden discloses an apparatus for cooling an optical fiber which consists of a “water-jacketed pipe provided with a series of internal baffles which divide the interior set of communicating chambers.” (Sapsford column 2, line 6 to 7). As the Office Action readily admits, Linden fails to disclose a left and right cooling body.

Further, Sapsford also fails to disclose a cooling apparatus containing a left and right cooling part selectively closing at a predetermined speed. Sapsford merely discloses a multi-chamber cooler (“filament cooler”) in which turbulent flow of the coolant gas is promoted by arranging for there to be cyclonic flows of coolant gas within the several chambers within the numerous chambers. (Column 2, Line 24 to 31)

Accordingly, applicant respectfully submits that Linden and Sapsford do not, either alone or in combination, show or teach a cooling apparatus containing a left and right cooling part that selectively closes at a predetermined speed, as recited in the amended claim 1.

Furthermore, the prior art, either alone or in combination, fails to show or teach that a flow of the turbulence generator is in the circumferential direction of the drawn optical fiber and directed toward the surface of the optical fiber, as recited in claim 1 (Specification, Page 9, line 11 to 12).

Linden discloses a gas coolant that flows upward in the cooling space. See FIG 2 and 3 above. The coolant gas in Sapsford is promoted by arranging for there to be cyclonic flows of coolant gas within the chambers, which are preferably formed in the shape of substantially smooth cornerless solids of revolution so as to minimize the risk of

the occurrence of regions therein of substantially stagnant coolant gas (Column 2, Line 24 to 31). The cyclonic gas flow is promoted in the chambers by means of gas injection or extraction via orifices which open substantially tangentially into the chambers (Column 3, line 63 to line 65).

It is clear by examination of both references that Linden and Sapsford do not, either alone or in combination, show or teach a cooling apparatus which promotes a turbulence flow of helium gases which flows in the circumferential direction of the drawn optical fiber and directed toward the surface of the optical fiber.

Therefore, reconsideration and withdrawal of this ground for rejection are respectfully requested.

The other claims in this application are each dependent from the independent claims discussed above and are therefore believed patentable for the same reasons. Since each dependent claim is also deemed to define an additional aspect of the invention, however, the individual consideration of the patentability of each on its own merits is respectfully requested.


The applicants submit that the claims, as they now stand, fully satisfy the requirements of 35 U.S.C. 103. In view of the foregoing amendments and remarks, favorable reconsideration and early passage to issue of the present patent application are respectfully solicited.

For all the foregoing reasons, it is respectfully submitted that all the present claims are patentable in view of the cited reference. A notice of Allowance is respectfully requested.

Should the Examiner deem that there are any issues, which may be best, resolved by telephone communication, please contact Applicant's undersigned Attorney at the number listed below.

Respectfully submitted,

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I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to Mail Stop Amendment, Commissioner For Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on August 10, 2005.

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(Signature and Date)